Project Introduction

The purpose of this project was to investigate requirements to develop an innovative mobile application to retrieve components' detailed information from the Stennis Online Catalogue System (SOCS) database, and display component or part information based on user input. The mobile application would enable the user to scan a component with a mobile device, and retrieve real-time data from SOCS. This technology would streamline processes and increase the engineers' work productivity and efficiency.

The proposed technology development concept is a software application tool developed for use on a mobile device at SSC for use in the component retrieval system (SOCS). The development of a mobile application that provides field access to the component database is a type of technology that has been proven successful in the private sector. The project purpose was to demonstrate feasibility that using a mobile application could provide benefits, cost savings, and could be used across Stennis. With this type of tool, personnel could easily access information within SSC's component retrieval systems instantly, providing the real-time information that is often required for the timeliest decision-making. Additionally, an electronic audit trail would enable the ability to see who performed tasks and help reduce error. The result could be a substantial increase in productivity. The capability could provide a new level of accountability for a wide variety of component monitoring retrieval processes. For this project, initial requirements to develop a mobile application software tool that could be used to retrieve detailed information on components from the SOCS database were compiled.

Anticipated Benefits

Benefits to NASA funded missions include improvement in productivity and efficiency, while minimizing errors and reducing time to complete tasks associated with component information retrieval. The availability of cloud computing capability and smart mobile devices is changing the landscape of how to more efficiently work in the government, but this poses as both an opportunity and a challenge. Incorporation of these technologies must be done on a local level in a secured environment to optimize utility; however the major hurdle in implementing a mobile solution is providing a secure communications environment to access data and applications on the internal network without overbearing the user needs to be addressed.

Benefits to NASA unfunded missions and planned missions include providing tools which help build toward a future that keeps NASA aligned with the rapid changes in technology development. Tools need to be developed that can help securely architect our systems (including component retrieval databases) for use with mobile applications for interoperability and openness, from conception to implementation.

Benefits to the commercial space industry would be similar to those that would
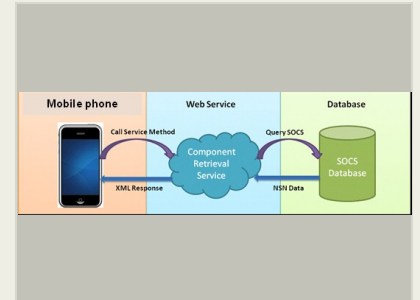
Architecture Diagram for the Mobile Phone Application to access SSC's Online Catalog System

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benefit NASA. The increased efficiencies in locating and identifying components could reduce the price and cost to build up and operate a commercial space test program at Stennis.

Benefits to other government agencies would be similar to those that would benefit NASA. If components are tagged, organized and maintained in a component database, then it would be advantageous to have a tool that could increase the ability to locate equipment/components in real-time. Similarly, costs could be reduced, efficiencies could be improved and processes could be streamlined.

Primary U.S. Work Locations and Key Partners
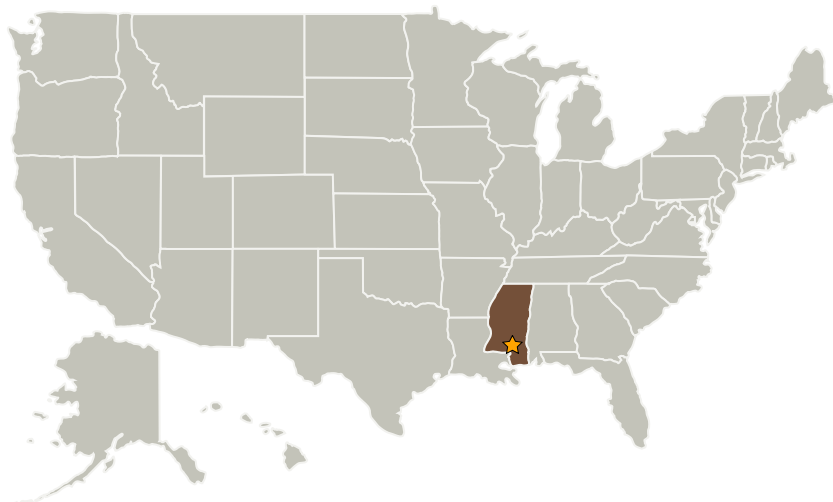
Organizations Performing Work	Role	Type	Location
⭐Stennis Space Center(SSC)	Lead Organization	NASA Center	Stennis Space Center, Mississippi
ARTS	Supporting Organization	Industry	

Primary U.S. Work Locations
Mississippi

Organizational Responsibility

Responsible Mission Directorate:
Space Technology Mission Directorate (STMD)

Lead Center / Facility:
Stennis Space Center (SSC)

Responsible Program:
Center Innovation Fund: SSC CIF

Project Management

Program Director:
Michael R Lapointe
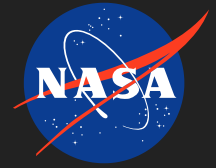
Program Manager:
Ramona E Travis

Project Manager:
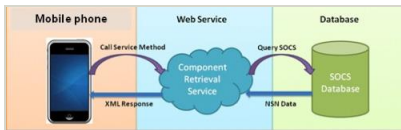Bonita J Oliver

Principal Investigator:
Susan Grey

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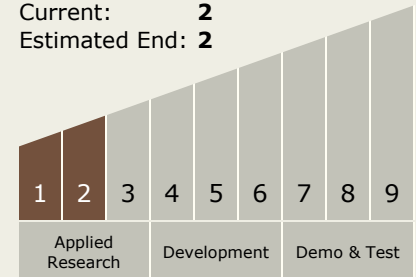https://techport.nasa.gov/view/17514

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Images

Mobile Application Development: Component Retrieval System
Architecture Diagram for the Mobile Phone Application to access SSC's Online Catalog System
(https://techport.nasa.gov/image/4189)

Technology Maturity (TRL)

Start: **1**
Current: **2**
Estimated End: **2**

1	2	3	4	5	6	7	8	9

Applied Research	Development	Demo & Test

Technology Areas

Primary:

- TX13 Ground, Test, and Surface Systems
  └ TX13.1 Infrastructure Optimization
    └ TX13.1.5 Ground and Surface Logistics

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